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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/653,493	09/02/2003	David Allan Johnson	DN2002110C01	3758
27280	7590	02/24/2005	EXAMINER	
THE GOODYEAR TIRE & RUBBER COMPANY INTELLECTUAL PROPERTY DEPARTMENT 823 1144 EAST MARKET STREET AKRON, OH 44316-0001			TRAN, CHUC	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

5A

Office Action Summary	Application No. 10/653,493	Applicant(s) JOHNSON ET AL.	
	Examiner Chuc D. Tran	Art Unit 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2003.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-40 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 21-40 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/2/03, 10/24/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims 21, 26, 30, 34 and 37. Therefore, the “material” in claims 21, 26, 30, 34, 37 and the “electrical device” in claims 21, 34, 37 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 21, 26 and 30 are objected to because of the following informalities: The term “an apparatus comprising, an annular apparatus comprising, an apparatus of the type comprising”

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is infinite because it is not sufficient introduction to support means limitation for claims invention.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 21-40 are rejected under 35 U.S.C. 102(e) as being anticipated by Brown et al (USP. 6,546,982).

Regarding claim 21, Brown et al disclose an apparatus comprising:

- a toroidal body (700) composed of a material (750) having high electromagnetic permeability and the body having a through bore (744) (Fig. 7) (Col. 23, Line 20 & 36);
- an electrical device (702) coupled to the toroidal body (700) (Fig. 7);
- a loop antenna (740) disposed to extend through the through bore in direct magnetic coupled relationship with the toroidal body (Fig. 7) (Col. 23, Line 30).

Regarding claim 22, Brown et al disclose that the loop antenna is in mechanically de-coupled relationship with the toroidal body (Fig. 7).

Regarding claim 23, Brown et al disclose that the loop antenna lies substantially in a first plane that intersects the toroidal body opening at a substantially right angle (Fig. 7).

Regarding claim 24, Brown et al disclose that the electrical device comprises a transponder (702)(Fig. 7).

Regarding claim 25, Brown et al disclose that the loop antenna comprises at least one wire (Col. 23, Line 32).

Regarding claim 26, Brown et al disclose an annular apparatus comprising:

- a toroidal body (700) composed of a material (750) having high electromagnetic permeability and the body having a through bore (744) (Fig. 7) (Col. 23, Line 20 & 36);
- a transponder (702) coupled to the toroidal body (700) (Fig. 7);
- a loop antenna (740) disposed to extend through the through bore (Fig. 7) in a magnetically coupled relationship and a mechanically de-coupled relationship with the toroidal body (Fig. 7).

Regarding claim 27, Brown et al disclose that the loop antenna (740) lies substantially in a first plane that intersects the toroidal body opening at a substantially right angle (Fig. 7).

Regarding claim 29, Brown et al disclose that the transponder (702) and the toroidal body (700) reside within a common housing (Fig. 7).

Regarding claim 30, Brown et al disclose an apparatus of the type comprising:

- a toroidal body (700) composed of material (750) having high electromagnetic permeability and the body having a through bore (744) (Fig. 7) (Col. 23, Line 20 & 36);
- a transponder (702) coupled to the toroidal body (700), and a loop antenna (740) magnetically coupled to the transponder through the toroidal body (Fig. 7), characterized in that the loop antenna (740) extends through the central opening in a non-contacting and mechanically decoupled relationship with the toroidal body (Fig. 7).

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Regarding claim 31, Brown et al disclose that the loop antenna lies within a first plane normally disposed to the toroidal body through bore (Fig. 7).

Regarding claim 32, Brown et al disclose that the loop antenna (740) is in direct magnetically coupled relationship and mechanically de-coupled relationship with the toroidal body (Fig. 7).

Regarding claim 33, Brown et al disclose that characterized as including a housing in which the toroidal body and the transponder commonly reside (Fig. 7).

Regarding claim 34, Brown et al disclose a method of associating a loop antenna (740) with an electronic device (702) through a toroidal body (700) composed of a material (750) of high elector-magnetic permeability and the body having a through bore (744) (Fig. 7), comprising the steps of :

- positioning the loop antenna to project through the through bore in noncontacting and mechanically decoupled relationship with the toroidal body (Col. 40, Line 25) (Fig. 7);
- establishing a direct magnetic coupling between the loop antenna and the toroidal body; and coupling the electronic device to the antenna through the toroidal body (Col. 40, Line 25).

Regarding claim 35, Brown et al disclose that the step of orienting the loop antenna to lie within a first plane normally disposed to the toroidal body through bore (Fig. 7).

Regarding claim 38, Brown et al disclose that the step of locating the toroidal body and the electronic device within a common housing (Col. 40, Line 5).

Regarding claim 37, Brown et al disclose a method of associating a loop antenna with an electronic device through a toroidal body composed of a material of high electromagnetic permeability and the body having a central opening, comprising the steps of:

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- establishing a magnetic (750) coupling between the loop antenna (740 and the toroidal body (Fig. 7);

- coupling the electronic device (702) to the antenna through the toroidal body (Fig. 7);

- embedding at least a portion (754) of the antenna loop and at least a portion of the electronic device in an electrically non-conductive encapsulant material to maintain the antenna loop and the toroidal body in a specified orientation (Fig. 7).

Regarding claim 38, Brown et al disclose that the step of extending the antenna through the toroidal body through bore in a mechanically de-coupled relationship therewith (Fig. 7).

Regarding claim 39, Brown et al disclose that the steps of positioning the toroidal body in an orientation in which the antenna intersects the through bore at substantially a right angle (Fig. 7); and

employing the encapsulant material to maintain the toroidal body in said orientation (Fig. 7).

Regarding claim 40, Brown et al disclose that the step of employing the encapsulant material to render the toroidal body and the electronic device unitarily transportable (Abstract).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. in view of Pappas et al (USP. 4,319,220)

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Regarding claim 28, Brown et al disclose an apparatus comprising as set forth in the claims except the loop antenna comprises at least one wire formed into a substantially sinusoidal wave conformation. Pappas et al disclose alarm system for monitoring pressurized vehicular tires comprising the loop antenna (159) comprises at least one wire formed into a substantially sinusoidal wave conformation (Pappas et al. Fig. 11). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brown et al by using the loop antenna wire formed into sinusoidal waveform as taught by Pappas et al. The ordinary artisan would have been motivated to modify Brown et al in the manner described above for maintaining the balance of the tire (Pappas et al. Col. 10, Line 33).

Citation of relevant Prior Art

Prior art Ko et al (USP. 6,438,193) disclose self powered tire revolution counter.

Prior art Brown (USP. 6,581,657) disclose disposition of transponder coupling elements in tires.

Prior art Shimura (USP. 6,788,192) disclose transponder for tire.

Prior art Brown (USP. 6,591,671) disclose monitoring pneumatic tire conditions.

Prior art Adamson et al (USP. 6,807,853) disclose system and method for generating electric power from a rotating tire.

Prior art Pollack (USP. 6,534,711) disclose encapsulation package.

Prior art Lowe et al (USP. 5,541,574) disclose transponder system.

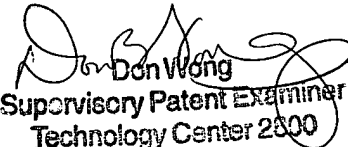
Prior art Rensel et al (USP. 5,977,870) disclose method and apparatus for transmitting stored data and engineering conditions of a tire.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuc D. Tran whose telephone number is (571) 272-1829. The examiner can normally be reached on M-F Flex hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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TC
February 18, 2005